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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,662	09/05/2006	Karl Ott	295335US0PCT	3137
22850	7590	06/16/2010		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
FRANK, NOAH S				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
06/16/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/591,662

Applicant(s)

OTT ET AL.

Examiner

NOAH FRANK

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruchmann et al. (DE 101 61 156, citations refer to the English equivalent, US 2005/0043467) in view of Galan et al. (US 4,757,095).

Considering Claims 15-16, 25: Bruchmann et al. teaches aqueous dispersions comprising a polyurethane (¶0001) composed of diisocyanates having 4 to 12 carbons (¶0018), diols of which 10 to 100 mol% have a molecular weight of from 500 to 5000 and 0 to 90 mol% gave a molecular weight of from 60 to 500 (¶0003-5), and monomers containing at least one isocyanate group or at least one isocyanate-reactive group and further carrying at least one hydrophilic group or potentially hydrophilic group (¶0006). The polyurethane is made by preparing polyurethane prepolymers, dispersing them in water, and then chain extending them with polyamines (¶0058).

Bruchmann does not teach preparing the polyurethane in the presence of N-ethylpyrrolidone or N-cyclohexylpyrrolidone. However, Galan et al. teaches using lactones and lactams in the preparation of polyurethanes (Abs). A particularly suited lactam is N-ethylpyrrolidone (6:35-40). Bruchmann and Galan are analogous art because they are from the same field of endeavor, namely polyurethane additives. At

the time of the invention a person of ordinary skill in the art would have found it obvious to have used N-ethylpyrrolidone, as taught by Galan, in the invention of Bruchmann, in order to make a polyurethane product with the unexpected and improved properties when compared to polyurethane elastomers which are prepared in the absence of either a lactone or a lactam, such as good cold temperature flexibility (2:5-15 of Galan).

Considering Claims 17-22: Bruchmann et al. teaches the hydrophilic monomer being dimethylolpropionic acid (§0044).

Considering Claim 23: Bruchmann et al. teaches reacting the monomers in the presence of a cesium salt (§0009).

Considering Claim 24: Bruchmann et al. teaches using the dispersions for coating articles made of plastic, paper, textile, or leather (§0090).

Response to Arguments

Applicant's arguments filed 4/15/10 have been fully considered but they are not persuasive.

In response to appellant's arguments that Bruchmann reasonably suggests that if a solvent is used, it should have a boiling point of from 40 to 100°C, this is only when the acetone process is used. Bruchmann teaches that, "In the acetone process an ionic polyurethane is prepared from components (a) to (c) in a water-miscible solvent which boils at below 100°C under atmospheric pressure" (§0083). However, Bruchmann also teaches the prepolymer mixing process (§0084), which does not require the same solvents as those used for the acetone process. While Bruchmann teaches removing the majority of the solvent via distillation (§0085), this is only necessary when a large

amount of solvent is used, such as in the acetone process. Bruchmann teaches minimizing the solvent to less than 10%, and particularly free from solvents (§0085), however there would be no need to distill off the majority of the solvent if less than 10% had been used at the outset. As the prepolymer mixing process does not require a large amount of solvent, the skilled artisan would have found it obvious to have included under 10% of N-ethylpyrrolidone in order to improve the cold temperature flexibility of the final product (2:5-15 of Galan). Additionally, Galan teaches using a prepolymer mixing process for the production of the polyurethanes containing lactams (Examples 1-6). In summation, the skilled artisan, looking to improve the cold temperature flexibility of Bruchmann's polyurethanes, would incorporate the N-ethylpyrrolidone of Galan, and knowing that it would not be possible to use the acetone process, would therefore choose the prepolymer mixing process. Furthermore, the skilled artisan would still adhere to Bruchmann's teachings by keeping the solvent level below 10%.

In response to applicant's arguments that Galan teaches the polyurethanes being a reaction product of the prepolymer with a lactone or lactam, lactones and lactams are not reactive with isocyanate. By incorporation Galan is referring to the fact that the lactone or lactam will be present during the urethanization reaction and will be physically incorporated, not chemically incorporated. If the lactone or lactam were chemically incorporated, the instant invention would be inoperable.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOAH FRANK whose telephone number is (571)270-3667. The examiner can normally be reached on M-F 9-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NF
6-8-10

/Marc S. Zimmer/
Primary Examiner, Art Unit 1796